

Eastern Region SSD's (Ken Johnson, David Novak, and Jeff Waldstreicher) comments on the ISST's Eta extension proposal (received by the ISST on 11/14/2003)

Although we fully support efforts to provide more guidance to WFOs for the extended ranges, we had a number of concerns.

Running the Eta within GFS amounts to giving the forecasters another model. The characteristics of the Eta in this configuration are unknown and the results can be quite different than the GFS. Although the Eta will be initialized with the GFS 60 h forecast and forced by subsequent GFS boundary conditions, after time mesoscale features in the Eta extension solution will feed back to larger scales such that it may not be all that similar to the GFS. Also, differences in model physics and parameterizations between the GFS and Eta will cause differences in the forecasts. WFO forecasters will see 5 km downscaled fields, but won't have an opportunity to interpret them since the Eta extension model data is not available to them. To be able to interpret the downscaled fields, forecasters will need some form of access to the Eta extension data, however, current bandwidth limitations make this problematic.

Although NDFD is at 5 km resolution and allows for very detailed forecasts, striving to incorporate this detail at the extended ranges may be an inefficient use of resources, especially when forecasters are best adept at incorporating that detail in shorter-range forecasts. One concern noted now is that forecasts without detail gradually are inherited into shorter forecast ranges, degrading services. If this is indeed the concern, the solution is not mesoscale model data at extended ranges, but rather an iterative forecast process where there is an increase in detail of the forecast grids as the events dictate, forecast projection shortens, and forecaster confidence increases.

Finally, although intended as a short-term solution, even with EMC producing these fields and assuming regional networks can provide the data, AWIPS would have to be configured to ingest and process these fields. The bottom line is this is not a trivial step especially given numerous tasks battling for resources.

Scientifically, the nesting of a mesoscale model within a synoptic scale model is an intriguing concept worth exploration. However, it is our contention these resources may be better spent at accelerating current efforts to provide WFOs GFS model data out to 192 h with more vertical resolution. Also, exploration into optimizing/improving Smart Init routines using this data should be commenced. Finally, the use of ensemble MOS and other probabilistic model guidance should be aggressively pursued.